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United States
Department of
Agriculture

Food Safety
and Inspection
Service

HACCP-2

March 1994

Generic HACCP* Model for Cooked Sausage

*Hazard Analysis
and Critical Control
Point (HACCP)

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Introduction

HACCP Generic Model for Cooked Sausage

Hazard Analysis and Critical Control Points (HACCP) is a system of process control. It is designed to prevent the occurrence of problems by ensuring that controls are applied at any point in a food production system where hazardous or critical situations could occur. Hazards could include microbiological, chemical, or physical adulteration of food products.

In late May 1993, U.S. Department of Agriculture (USDA) Secretary Mike Espy directed USDA's Food Safety and Inspection Service (FSIS) to provide him with a plan for implementing mandatory HACCP in the nation's meat and poultry establishments. The Secretary recognized that such a system, which has been under study by FSIS, was a necessary building block of the inspection system of the future.

In workshops held in 1991 and 1992, five generic HACCP models were developed and are being published for public information. The models should be useful for companies developing individualized plans.

The five generic HACCP models are:

- Refrigerated Foods
- Cooked Sausage
- Poultry Slaughter
- Fresh Ground Beef
- Swine Slaughter



The workshop for Cooked Sausage was held in Fort Worth, Texas, from May 21-23, 1991. Over 40 technical and subject matter experts from industry and government collaborated in the generic model development. Participants identified 9 critical control points (CCP's) for cooked sausage, including: receiving, meat preparation, non-meat ingredient compounding, pre-blend/formulation/staging (re-work), cooking/smoking, chilling/storage, peeling, packaging, and storage. This is the generic HACCP model for Cooked Sausage.

Information on the other four workshops follows:

The workshop for Refrigerated Foods was held in Baltimore, Maryland, from February 26-28, 1991. Over 40 technical and subject matter experts from industry and government collaborated in the generic model development. Participants identified 14 critical control points (CCP's) for refrigerated foods, including: preparation, cooking, chilling, assembling components into packages, flushing with gas atmosphere, package inspection, labeling and code dating, chilling, and storage. This is the generic HACCP model for Refrigerated Foods.

The workshop for Poultry Slaughter was held in Atlanta, Georgia, from August 27-29, 1991. Over 40 technical and subject matter experts from industry and government collaborated in the generic model development. Participants identified 10 critical control points (CCP's) for poultry slaughter, including: receiving, scalding, venting/opening/eviscerating, offline procedures, neck and giblet chilling, final wash, carcass chilling, packaging/labeling, and storage/distribution. This is the generic HACCP model for Poultry Slaughter.

The workshop for Fresh Ground Beef was held in Phoenix, Arizona, from December 3-5, 1991. Over 40 technical and subject matter experts from industry and government collaborated in the generic model development. Participants identified 10 critical control points (CCP's) for fresh ground beef, including: sanitation, receiving, storage, assembly/pre-weigh/pre-grind (re-work), final grind, packaging/labeling, storage, and shipping. This is the generic HACCP model for Fresh Ground Beef.

The workshop for Pork Slaughter (Market Hogs) was held in Minneapolis, Minnesota, from March 31-April 2, 1992. Over 40 technical and subject matter experts from industry and government collaborated in the generic model development. Participants identified 10 critical control points (CCP's) for pork slaughter, including: receiving/holding, scalding, dehairing, trimming, neck breaker/head dropping/brisket opening, splitting, trim rail/final rail inspection for trimming, cooler, operational sanitation, and pre-op sanitation. This is the generic HACCP model for Pork Slaughter (Market Hogs).

PRODUCT CATEGORY DESCRIPTION

PRODUCT CATEGORY : COOKED SAUSAGE (FRANKFURTER)

WORKSHOP LOCATION : FT. WORTH, TX

THE FOLLOWING QUESTIONS NEED TO BE ANSWERED WHEN DEVELOPING THE PRODUCT CATEGORY DESCRIPTION:

- 1. COMMON NAME?** FRANKS/HOT DOGS; WEINERS;
- 2. HOW IS IT TO BE USED?** HEAT AND EAT; READY-TO-EAT;
- 3. TYPE OF PACKAGE?** ATMOSPHERIC PACKED, VACUUM PACKED; MODIFIED ATMOSPHERIC PACKED
- 4. LENGTH OF SHELF LIFE, AT WHAT TEMPERATURE?** VACUUM PACKED-40 TO 60 DAYS; MODIFIED ATMOSPHERIC PACKED-30 TO 50 DAYS; ATMOSPHERIC PACKED-12 TO 20 DAYS AT 40-45 DEGREES FARENHEIT
- 5. WHERE WILL IT BE SOLD?** RETAIL; HRI
- 6. LABELING INSTRUCTIONS?** KEEP REFRIGERATED; FULLY-COOKED; CODE-DATE;
- 7. IS SPECIAL DISTRIBUTION CONTROL NEEDED?** KEEP REFRIGERATED AT OR BELOW 40 DEGREES;

PROCESS FLOW DIAGRAM

PRODUCT CATEGORY : COOKED SAUSAGE (FRANKFURTER)
WORKSHOP LOCATION : FT. WORTH, TX

RECEIVING	RECEIVING	RECEIVING	CCP 1C
MEAT/POULTRY	NON-MEAT INGREDIENTS	SUPPLIES	
STORAGE	STORAGE	STORAGE	
MEAT PREPARATION (TEMPERING, GRINDING, FLAKING, DUMPING, ETC.)	CCP 2P	NON-MEAT INGREDIENT COMPOUNDING	CCP 3M,C
		PRE-BLEND, FORMULATION, STAGING (RE-WORK)	CCP 4M,C
		CHOP AND/OR BLEND, EMULSIFY	
		STUFFING	
		SHOWERING	
		COOK/SMOKE	CCP 5M
		CHILL/STORAGE	CCP 6M
		PEEL	CCP 7M
		PACKAGING	CCP 8M,C,P
		STORAGE	CCP 9M
		SHIPPING/DISTRIBUTION	

LIST PRODUCT CATEGORIES AND INGREDIENTS

PRODUCT CATEGORY : COOKED SAUSAGE (FRANKFURTER)

WORKSHOP LOCATION : FT. WORTH, TX

MEAT AND MEAT BYPRODUCTS	NONMEAT FOOD INGREDIENTS	BINDERS/EXTENDERS
MEAT AND POULTRY RE-WORK	SALT SUGAR DEXTROSE CORN SYRUP	NON-FAT DRY MILK ISOLATED SOY PROTEIN
SPICES/FLAVORINGS	RESTRICTED INGREDIENTS	PRESERVATIVES/ ACIDIFIERS
LIQUID SMOKE PAPRIKA PROTEIN FLAVORS MUSTARD SPICE EXTRACTIVES ONION GARLIC NATURAL SPICES SODIUM LACTATE	SODIUM NITRITE PHOSPHATE SODIUM ERYTHORBATE SODIUM ASCORBATE AND CITRIC ACID SODIUM CITRATE	
OTHER		
WATER/ICE DRY ICE CARBON DIOXIDE NITROGEN		

INDUSTRY HACCP WORKSHOP
FINISHED PRODUCT/INGREDIENT HAZARD ANALYSIS/RISK ASSIGNMENT

PRODUCT CATEGORY : COOKED SAUSAGE (FRANKFURTER)

WORKSHOP LOCATION : FT. WORTH, TX

PRODUCT HAZARD : MICROBIOLOGICAL

HAZARD CHARACTERISTICS ASSOCIATED WITH THE FINISHED PRODUCT AND ITS INGREDIENTS. "+" = A HAZARD EXISTS "0" = NO HAZARD EXISTS	HAZARD CHARACTERISTICS						RISK
	A	B	C	D	E	F	
(1) FINISHED PRODUCT (FRANKFURTER)	*	+	0	+	+	+	IV
(2) INGREDIENTS							
MEAT AND MEAT BYPRODUCT (MEAT & POULTRY)	*	+	+	+	+	+	V
NON-MEAT FOOD INGREDIENTS (SALT)	*	0	0	0	0	+	I
BINDERS/EXTENDERS (NON-FAT DRY MILK)	*	+	0	+	0	+	III
SPICES/FLAVORINGS (NATURAL SPICES)	*	+	+	+	0	+	IV
RESTRICTED INGREDIENTS (SODIUM NITRITE)	*	0	0	0	0	+	I
PRESERVATIVES/ACIDIFIERS	*						
OTHER (CITY WATER)	*	+	0	0	0	+	II
OTHER (RE-WORK)	*	+	+	+	+	+	V
	*						
	*						
	*						
	*						

*HAZARD CHARACTERISTIC "A" N/A for industry generic workshop HACCP model.

NOTE:

- When doing Finished Product hazard analysis risk assignment, consider all ingredients and processes used in the establishment to produce the Finished Product.
- When doing hazard analysis and risk assignment on ingredients, consider only those processes taking place prior to product arriving at the receiving dock of the consuming establishment.

INDUSTRY HACCP WORKSHOP
FINISHED PRODUCT/INGREDIENT HAZARD ANALYSIS/RISK ASSIGNMENT

PRODUCT CATEGORY : COOKED SAUSAGE (FRANKFURTER)

WORKSHOP LOCATION : FT. WORTH, TX

PRODUCT HAZARD : CHEMICAL

HAZARD CHARACTERISTICS ASSOCIATED WITH THE FINISHED PRODUCT AND ITS INGREDIENTS. "+ " = A HAZARD EXISTS "0" = NO HAZARD EXISTS	HAZARD CHARACTERISTICS						RISK
	A	B	C	D	E	F	
(1) FINISHED PRODUCT (FRANKFURTER)	*	+	0	0	0	+	II
(2) INGREDIENTS							
MEAT AND MEAT BYPRODUCTS (MEAT & POULTRY)	*	0	+	0	0	0	I
NON-MEAT FOOD INGREDIENTS (SALT)	*	0	0	0	0	0	0
BINDERS/EXTENDERS (NON-FAT DRY MILK)	*	0	+	0	0	0	I
SPICES/FLAVORINGS (NATURAL SPICES)	*	0	+	0	0	0	I
RESTRICTED INGREDIENTS (SODIUM NITRITE)	*	+	+	0	0	0	II
PRESERVATIVES/ACIDIFIERS	*						
OTHER (CITY WATER)	*	0	0	0	0	0	0
OTHER (RE-WORK)	*	0	+	0	0	0	I
	*						
	*						
	*						
	*						

*HAZARD CHARACTERISTIC "A" N/A for industry generic workshop HACCP model.

NOTE:

- When doing Finished Product hazard analysis risk assignment, consider all ingredients and processes used in the establishment to produce the Finished Product.
- When doing hazard analysis and risk assignment on ingredients, consider only those processes taking place prior to product arriving at the receiving dock of the consuming establishment.

INDUSTRY HACCP WORKSHOP
FINISHED PRODUCT/INGREDIENT HAZARD ANALYSIS/RISK ASSIGNMENT

PRODUCT CATEGORY : COOKED SAUSAGE (FRANKFURTER)

WORKSHOP LOCATION : FT. WORTH, TX

PRODUCT HAZARD : PHYSICAL

HAZARD CHARACTERISTICS ASSOCIATED WITH THE FINISHED PRODUCT AND ITS INGREDIENTS. "+ " = A HAZARD EXISTS "0" = NO HAZARD EXISTS	HAZARD CHARACTERISTICS						RISK
	A	B	E	D	E	F	
(1) FINISHED PRODUCT (FRANKFURTER)	*	+	+	+	0	+	IV
(2) INGREDIENTS							
MEAT AND MEAT BYPRODUCTS (MEAT & POULTRY)	*	+	+	+	0	+	IV
NON-MEAT FOOD INGREDIENTS (SALT)	*	0	0	0	0	0	0
BINDERS/EXTENDERS (NON-FAT DRY MILK)	*	0	0	0	0	0	0
SPICES/FLAVORINGS (NATURAL SPICES)	*	0	0	0	0	0	0
RESTRICTED INGREDIENTS (SODIUM NITRITE)	*	0	0	0	0	0	0
PRESERVATIVES/ACIDIFIERS	*						
OTHER (CITY WATER)	*	0	0	0	0	0	0
OTHER (RE-WORK)	*	+	+	+	0	+	IV
	*						
	*						
	*						
	*						
	*						

*HAZARD CHARACTERISTIC "A" N/A for industry generic workshop HACCP model.

NOTE:

1. When doing Finished Product hazard analysis risk assignment, consider all ingredients and processes used in the establishment to produce the Finished Product.
2. When doing hazard analysis and risk assignment on ingredients, consider only those processes taking place prior to product arriving at the receiving dock of the consuming establishment.

INDUSTRY WORKSHOP HACCP MODEL
(SUBMITTED BY STEERING COMMITTEE 9/05/91)

PRODUCT CATEGORY : RECEIVING AND/OR PREPARATION OF MEAT RAW MATERIALS

**WORKSHOP LOCATION : COOKED SAUSAGE (FRANKFURTER)
FT. WORTH, TX**

PROCESS STEP/CCP	CCP/HAZARD NUMBER	CCP DESCRIPTION	CRITICAL LIMITS	ESTABLISHMENT MONITORING	CORRECTIVE/PREVENTIVE ACTION	HACCP RECORDS	HACCP SYSTEM VERIFICATION
RECEIVING	CCP 1C	FOOD GRADE MATERIALS	CONTINUING LETTER OF GUARANTEE	VERIFY AND MAINTAIN ON FILE A CONTINUING LETTER OF GUARANTEE WHICH MAY INCLUDE A CERTIFICATE OF ANALYSIS, CONDITIONS OF USE AND NOTIFICATION OF PRODUCT PROCESS CHANGES WHICH IMPACT FOOD SAFETY	PLACE PRODUCT ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY EVALUATE CAUSE OF DEVIATION AND TAKE ACTION TO PREVENT RECURRENCES	MAINTAIN COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS (COMPUTER OR HARD COPY) COMPLETED BY APPROPRIATE PERSON, RECORDED AT CCP SITE ON A TIMELY BASIS RECORDS TO BE MAINTAINED FOR APPROPRIATE TIME PERIOD	PERIODIC OBSERVATION AND/OR MEASUREMENT AUDIT OF RELEVANT RECORDS, CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATION
RECEIVING AND/OR PREPARATION OF MEAT RAW MATERIALS	CCP 2P	FOREIGN MATERIALS	VENDOR SPECIFICATIONS AND/OR PURCHASING SPECIFICATIONS	COMPLIANCE WITH SPECIFICATIONS INCLUDING SPOT CHECKS, VISUAL AND ORGANOLEPTIC EVALUATION	PLACE PRODUCT ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY EVALUATE CAUSE OF DEVIATION AND TAKE ACTION TO PREVENT RECURRENCES	MAINTAIN COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS (COMPUTER OR HARD COPY) COMPLETED BY APPROPRIATE PERSON, RECORDED AT CCP SITE ON A TIMELY BASIS RECORDS TO BE MAINTAINED FOR APPROPRIATE TIME PERIOD	PERIODIC OBSERVATION AND/OR MEASUREMENT AUDIT OF RELEVANT RECORDS, CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS

INDUSTRY WORKSHOP HACCP MODEL
(SUBMITTED BY STEERING COMMITTEE 9/05/91)

PRODUCT CATEGORY : COOKED SAUSAGE (FRANKFURTER)
WORKSHOP LOCATION : FT. WORTH, TX

PROCESS STEP/CCP	CCP/HAZARD NUMBER	CCP DESCRIPTION	CRITICAL LIMITS	ESTABLISHMENT MONITORING	CORRECTIVE/PREVENTIVE ACTION	HACCP RECORDS	HACCP SYSTEM VERIFICATION
NON-MEAT INGREDIENT COMPOUNDING	CCP 3M	NITRITE CONTROL	ACCEPTABLE LEVELS TO MAINTAIN PRODUCT SAFETY AS ESTABLISHED BY QUALITY ASSURANCE AND/OR PROCESSING AUTHORITY	VENDOR CERTIFICATION OF ANALYSIS AND/OR SAMPLE WEIGH AND DOCUMENT ON A BASIS FREQUENT ENOUGH TO ASSURE COMPLIANCE	PLACE PRODUCT ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY	MAINTAIN COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS (COMPUTER OR HARD COPY) COMPLETED BY APPROPRIATE PERSON, RECORDED AT CCP SITE ON A TIMELY BASIS RECORDS TO BE MAINTAINED FOR APPROPRIATE TIME PERIOD	PERIODIC OBSERVATION AND/OR MEASUREMENT AUDIT OF RELEVANT RECORDS, CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS DOCUMENT CALIBRATION OF TEST EQUIPMENT AT INTERVALS SUFFICIENT TO MEET CRITICAL LIMITS
NON-MEAT INGREDIENT COMPOUNDING	CCP 3C	NITRITE CONTROL	ACCEPTABLE LEVELS TO MAINTAIN PRODUCT SAFETY AS ESTABLISHED BY QUALITY ASSURANCE AND/OR A PROCESSING AUTHORITY	VENDOR CERTIFICATION OF ANALYSIS AND/OR SAMPLE WEIGH AND DOCUMENT ON A BASIS FREQUENT ENOUGH TO ASSURE COMPLIANCE	PLACE PRODUCT ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY	MAINTAIN COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS (COMPUTER OR HARD COPY) COMPLETED BY APPROPRIATE PERSON, RECORDED AT CCP SITE ON A TIMELY BASIS RECORDS TO BE MAINTAINED FOR APPROPRIATE TIME PERIOD	PERIODIC OBSERVATION AND/OR MEASUREMENT AUDIT OF RELEVANT RECORDS, CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS DOCUMENT CALIBRATION OF TEST EQUIPMENT AT INTERVALS SUFFICIENT TO MEET CRITICAL LIMITS

INDUSTRY WORKSHOP HACCP MODEL
(SUBMITTED BY STEERING COMMITTEE 9/05/91)

PRODUCT CATEGORY : COOKED SAUSAGE (FRANKFURTER)
WORKSHOP LOCATION : FT. WORTH, TX

PROCESS STEP/CCP	CCP/HAZARD NUMBER	CCP DESCRIPTION	Critical Limits	Establishment Monitoring	Corrective/Preventive Action	HACCP Records	HACCP System Verification
PRE-BLEND, FORMULATION, STAGING (RE-WORK) WHICH EVER STEP IS APPLICABLE FOR THE OPERATION	CCP 4M	NITRITE CONTROL	ACCEPTABLE LEVELS TO MAINTAIN PRODUCT SAFETY AS ESTABLISHED BY PROCESSING AUTHORITY	PLANT ESTABLISHED PROCEDURES TO ASSURE PROPER AMOUNT OF CURE COMPOUND IS IN EVERY BATCH	PLACE PRODUCT ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY EVALUATE CAUSE OF DEVIATION AND TAKE ACTION TO PREVENT RECURRENCES	MAINTAIN COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS (COMPUTER OR HARD COPY) COMPLETED BY APPROPRIATE PERSON, RECORDED AT CCP SITE ON A TIMELY BASIS RECORDS TO BE MAINTAINED FOR APPROPRIATE TIME PERIOD	PERIODIC OBSERVATION AND/OR MEASUREMENT AUDIT OF RELEVANT RECORDS, CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS DOCUMENT CALIBRATION OF TEST EQUIPMENT AT INTERVALS SUFFICIENT TO MEET CRITICAL LIMIT
PRE-BLEND, FORMULATION, STAGING (RE-WORK) WHICH EVER STEP IS APPLICABLE FOR THE OPERATION	CCP 4C	NITRITE CONTROL	ACCEPTABLE LEVELS TO MAINTAIN PRODUCT SAFETY AS ESTABLISHED BY PROCESSING AUTHORITY	PLANT ESTABLISHED PROCEDURES TO ASSURE PROPER AMOUNT OF CURE COMPOUND IS IN EVERY MEAT BATCH	PLACE PRODUCT ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY EVALUATE CAUSE OF DEVIATION AND TAKE ACTION TO PREVENT RECURRENCES	MAINTAIN COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS (COMPUTER OR HARD COPY) COMPLETED BY APPROPRIATE PERSON, RECORDED AT CCP SITE ON A REAL TIME BASIS RECORDS TO BE MAINTAINED FOR APPROPRIATE TIME PERIOD	PERIODIC OBSERVATION AND/OR MEASUREMENT AUDIT OF RELEVANT RECORDS, CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS DOCUMENT CALIBRATION OF TEST EQUIPMENT AT INTERVALS SUFFICIENT TO MEET CRITICAL LIMITS

**INDUSTRY WORKSHOP HACCP MODEL
(SUBMITTED BY STEERING COMMITTEE 9/05/91)**

**PRODUCT CATEGORY : COOKED SAUSAGE (FRANKFURTER)
WORKSHOP LOCATION : FT. WORTH, TX**

PROCESS STEP/CCP	CCP/HAZARD NUMBER	CCP DESCRIPTION	CRITICAL LIMITS	ESTABLISHMENT MONITORING	CORRECTIVE/PREVENTIVE ACTION	HACCP RECORDS	HACCP SYSTEM VERIFICATION
COOK/SMOKE	CCP 5M	TIME/TEMPERATURE	INTERNAL TEMPERATURE BY PHYSICAL MEASUREMENT IN A TIMELY MANNER OR BY AN ALTERNATIVE PROCEDURE ESTABLISHED BY A PROCESS AUTHORITY	FREQUENCY TO BE DETERMINED BY ESTABLISHMENT BASED ON PROCESSING SYSTEM	PLACE PRODUCT ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY EVALUATE CAUSE OF DEVIATION AND TAKE ACTION TO PREVENT RECURRENCES	Maintain copy record on appropriate establishment forms (computer or hard copy) completed by appropriate person, recorded at CCP site on a timely basis records to be maintained for appropriate time period	PERIODIC OBSERVATION AND/OR MEASUREMENT AUDIT OF RELEVANT RECORDS, CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS DOCUMENT CALIBRATION OF TEST EQUIPMENT AT INTERVALS SUFFICIENT TO MEET CRITICAL LIMITS
CHILL/STORAGE	CCP 6M	TIME/TEMPERATURE	INTERNAL TEMPERATURE BY PHYSICAL MEASUREMENT IN A TIMELY MANNER OR BY AN ALTERNATIVE PROCEDURE ESTABLISHED BY A PROCESS AUTHORITY FREQUENCY TO BE DETERMINED BY ESTABLISHMENT	FREQUENCY TO BE DETERMINED BY ESTABLISHMENT BASED ON PROCESSING SYSTEM	PLACE PRODUCT INVOLVED ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY EVALUATE CAUSE OF DEVIATION AND TAKE ACTION TO PREVENT RECURRENCES	HARD COPY ON APPROPRIATE ESTABLISHMENT FORMS, COMPLETED BY APPROPRIATE PERSON RECORDED AT CCP SITE ON A TIMELY BASIS RECORDS TO BE MAINTAINED FOR APPROPRIATE TIME PERIOD	PERIODIC OBSERVATION AND/OR MEASUREMENT AUDIT OF RELEVANT RECORDS, CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS DOCUMENT CALIBRATION OF TEST EQUIPMENT AT INTERVALS SUFFICIENT TO MEET CRITICAL LIMITS

INDUSTRY WORKSHOP HACCP MODEL
(SUBMITTED BY STEERING COMMITTEE 9/05/91)

PRODUCT CATEGORY : COOKED SAUSAGE (FRANKFURTER)
WORKSHOP LOCATION : FT. WORTH, TX

PROCESS STEP/CCP	CCP/HAZARD NUMBER	CCP DESCRIPTION	CRITICAL LIMITS	ESTABLISHMENT MONITORING	CORRECTIVE/PREVENTIVE ACTION	HACCP RECORDS	HACCP SYSTEM VERIFICATION
CHILL/STORAGE	CCP 6M	SANITATION	VISIBLY CLEAN EQUIPMENT AS DETERMINED BY VISUAL INSPECTION	CONDUCT PRE-OPERATIVE INSPECTION OF MEAT HANDLING EQUIPMENT AND IMMEDIATE ENVIRONMENT ACCORDING TO PLANT PROCEDURE	RECLEAN AND SANITIZE UNACCEPTABLE EQUIPMENT OR ENVIRONMENT; CONDUCT REINSPECTION	HARD COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS, COMPLETED BY APPROPRIATE PERSON	PERIODIC OBSERVATION AND/OR MEASUREMENT THROUGH VISUAL AND/OR MICROBIOLOGICAL MONITORING
					AUDIT OF RELEVANT RECORDS, CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY	RECORDS TO BE MAINTAINED FOR APPROPRIATE TIME PERIOD	PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS
CHILL/STORAGE	CCP 6M	CROSS CONTAMINATION	TIMELY OPERATIONAL INSPECTIONS SIGNIFICANT TO ASSURE ESTABLISHMENT GMP'S	PLACE PRODUCT INVOLVED ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION	HARD COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS, COMPLETED BY APPROPRIATE PERSON	PERIODIC OBSERVATION AND/OR MEASUREMENT OF ADHERENCE TO GMP'S.	
				DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY	ROUTINELY CONDUCT TRAINING	AUDIT OF RELEVANT RECORDS, CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY	
				EVALUATE CAUSE OF DEVIATION AND TAKE ACTION TO PREVENT RECURRENCES.	RECORDS TO BE MAINTAINED FOR APPROPRIATE TIME PERIOD	PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS	

INDUSTRY WORKSHOP HACCP MODEL
(SUBMITTED BY STEERING COMMITTEE 9/05/91)

PRODUCT CATEGORY : COOKED SAUSAGE (FRANKFURTER)
WORKSHOP LOCATION : FT. WORTH, TX

PROCESS STEP/CCP	CCP/HAZARD NUMBER	CCP DESCRIPTION	CRITICAL LIMITS	ESTABLISHMENT MONITORING	CORRECTIVE/PREVENTIVE ACTION	HACCP RECORDS	HACCP SYSTEM VERIFICATION
CHILL/STORAGE	CCP 6M	CROSS CONTAMINATION	EMPLOYEE HYGIENE	TIMELY OPERATIONAL INSPECTIONS SIGNIFICANT TO ASSURE ESTABLISHMENT GMP'S	PLACE PRODUCT INVOLVED ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY EVALUATE CAUSE OF DEVIATION AND TAKE ACTION TO PREVENT RECURRENCES	HARD COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS, COMPLETED BY APPROPRIATE PERSON RECORDED AT CCP SITE ON A TIMELY BASIS RECORDS TO BE MAINTAINED FOR APPROPRIATE TIME PERIOD	PERIODIC OBSERVATION AND/OR MEASUREMENT OF ADHERENCE TO GMP'S ROUTINELY CONDUCT TRAINING AUDIT OF RELEVANT RECORDS. CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS
PEEL	CCP 7M	SANITATION	VISIBLY CLEAN EQUIPMENT AS DETERMINED BY VISUAL INSPECTION	CONDUCT PRE-OPERATIVE INSPECTION OF MEAT HANDLING EQUIPMENT AND IMMEDIATE ENVIRONMENT ACCORDING TO PLANT PROCEDURE	RECLEAN AND SANITIZE UNACCEPTED EQUIPMENT OR ENVIRONMENT; CONDUCT RE-INSPECTION	HARD COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS, COMPLETED BY APPROPRIATE PERSON RECORDED AT CCP SITE ON A TIMELY BASIS RECORDS TO BE MAINTAINED FOR APPROPRIATE TIME PERIOD	PERIODIC OBSERVATION AND/OR MEASUREMENT BY VISUAL AND/OR MICROBIOLOGICAL MONITORING AUDIT OF RELEVANT RECORDS. CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS

INDUSTRY WORKSHOP HACCP MODEL
 SUBMITTED BY STEERING COMMITTEE 9/05/91)

COOKED SAUSAGE (FRANKFURTER)
 FT. WORTH, TX

PRODUCT CATEGORY
 WORKSHOP LOCATION

PROCESS STEP/CCP ^a	CCP/HAZARD NUMBER	CCP DESCRIPTION	CRITICAL LIMITS	ESTABLISHMENT MONITORING	CORRECTIVE/PREVENTIVE ACTION	HACCP RECORDS	HACCP SYSTEM VERIFICATION
PEEL	CCP 7M	EMPLOYEE HYGIENE	CROSS CONTAMINATION (AVOID CONTACT WITH RAW PRODUCT OR RAW PRODUCT CONTACT SURFACES)	TIMELY OPERATIONAL INSPECTIONS SIGNIFICANT TO ASSURE ESTABLISHMENT GMP'S	PLACE PRODUCT ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY EVALUATE CAUSE OF DEVIATION AND TAKE ACTION TO PREVENT RECURRENCES	HARD COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS, COMPLETED BY APPROPRIATE PERSON, RECORDED AT CCP SITE ON A TIMELY BASIS RECORDS TO BE MAINTAINED FOR APPROPRIATE TIME PERIOD	PERIODIC OBSERVATION AND/OR MEASUREMENT BY VISUAL AND/OR MICROBIOLOGICAL MONITORING OF ADHERENCE TO GMP'S. ROUTINELY CONDUCT TRAINING AUDIT OF RELEVANT RECORDS. CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS
PACKAGING	CCP 8M	CROSS CONTAMINATION	CROSS CONTAMINATION (AVOID CONTACT WITH RAW PRODUCT OR RAW PRODUCT CONTACT SURFACES)	TIMELY OPERATIONAL INSPECTIONS SIGNIFICANT TO ASSURE ESTABLISHMENT GMP'S	PLACE PRODUCT ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY EVALUATE CAUSE OF DEVIATION AND TAKE ACTION TO PREVENT RECURRENCES	MAINTAIN COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS (COMPUTER OR HARD COPY) COMPLETED BY APPROPRIATE PERSON, RECORDED AT CCP SITE ON A TIMELY BASIS RECORDS TO BE MAINTAINED FOR APPROPRIATE TIME PERIOD	PERIODIC OBSERVATION AND/OR MEASUREMENT BY VISUAL AND/OR MICROBIOLOGICAL MONITORING OF ADHERENCE TO GMP'S. ROUTINELY CONDUCT TRAINING AUDIT OF RELEVANT RECORDS. CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS

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**INDUSTRY WORKSHOP HACCP MODEL
SUBMITTED BY STEERING COMMITTEE 9/05/91)**

**PRODUCT CATEGORY : COOKED SAUSAGE (FRANKFURTER)
WORKSHOP LOCATION : FT. WORTH, TX**

PROCESS STEP/CCP	CCP/HAZARD NUMBER	CCP DESCRIPTION	Critical Limits	Establishment Monitoring	Corrective/Preventive Action	HACCP RECORDS	HACCP SYSTEM VERIFICATION
PACKAGING	CCP 8M	SANITATION	VISIBLY CLEAN EQUIPMENT AS DETERMINED BY VISUAL INSPECTION	CONDUCT PRE-OPERATIVE INSPECTION OF MEAT HANDLING EQUIPMENT AND IMMEDIATE ENVIRONMENT ACCORDING TO PLANT PROCEDURES	RECLEAN AND SANITIZE UNACCEPTABLE EQUIPMENT OR ENVIRONMENT; CONDUCT REINSPECTION	HARD COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS, COMPLETED BY APPROPRIATE PERSON, RECORDED AT CCP SITE ON A TIMELY BASIS	PERIODIC OBSERVATION AND/OR MEASUREMENT THROUGH VISUAL AND/OR MICROBIOLOGICAL MONITORING
PACKAGING	CCP 8M	EMPLOYEE HYGIENE	CROSS CONTAMINATION (AVOID CONTACT WITH RAW PRODUCT OR RAW PRODUCT CONTACT SURFACES)	TIMELY OPERATIONAL INSPECTIONS SIGNIFICANT TO ASSURE ESTABLISHMENT GMP'S DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY EVALUATE CAUSE OF DEVIATION AND TAKE ACTION TO PREVENT RECURRENCES	PLACE PRODUCT INVOLVED ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION	HARD COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS, COMPLETED BY APPROPRIATE PERSON, RECORDED AT CCP SITE ON A TIMELY BASIS	PERIODIC OBSERVATION AND/OR MEASUREMENT THROUGH VISUAL AND/OR MICROBIOLOGICAL MONITORING OF ADHERENCE TO GMP'S ROUTINELY CONDUCT TRAINING

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**INDUSTRY WORKSHOP HACCP MODEL
(SUBMITTED BY STEERING COMMITTEE 9/05/91)**

**PRODUCT CATEGORY : COOKED SAUSAGE (FRANKFURTER)
WORKSHOP LOCATION : FT. WORTH, TX**

PROCESS STEP/CCP	CCP/HAZARD NUMBER	CCP DESCRIPTION	CRITICAL LIMITS	ESTABLISHMENT MONITORING	CORRECTIVE/PREVENTIVE ACTION	HACCP RECORDS	HACCP SYSTEM VERIFICATION
PACKAGING	CCP 8C	LABELING	MUST REFLECT PACKAGED PRODUCT	TIMELY OPERATIONAL INSPECTIONS SIGNIFICANT TO ASSURE ESTABLISHMENT GMP'S	PLACE PRODUCT INVOLVED ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY EVALUATE CAUSE OF DEVIATION AND TAKE ACTION TO PREVENT RECURRANCES	HARD COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS, COMPLETED BY APPROPRIATE PERSON, RECORDED AT CCP SITE ON A TIMELY BASIS RECORDS TO BE MAINTAINED FOR APPROPRIATE TIME PERIOD	PERIODIC OBSERVATION AND/OR MEASUREMENT AUDIT OF RELEVANT RECORDS. CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS
PACKAGING	CCP 8P	FOREIGN MATERIALS	LIMITS ACCORDING TO APPROVED ESTABLISHED STANDARDS	INSPECTION THROUGH VISUAL AND/OR METAL DETECTION	PLACE PRODUCT INVOLVED ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY EVALUATE CAUSE OF DEVIATION AND TAKE ACTION TO PREVENT RECURRANCES	HARD COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS, COMPLETED BY APPROPRIATE PERSON, RECORDED AT CCP SITE ON A TIMELY BASIS RECORDS TO BE MAINTAINED FOR APPROPRIATE TIME PERIOD	PERIODIC OBSERVATION AND/OR MEASUREMENT AUDIT OF RELEVANT RECORDS. CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS DOCUMENT CALIBRATION OF TEST EQUIPMENT AT INTERVALS SUFFICIENT TO MEET CRITICAL LIMITS

**INDUSTRY WORKSHOP HACCP MODEL
(SUBMITTED BY STEERING COMMITTEE 9/05/91)**

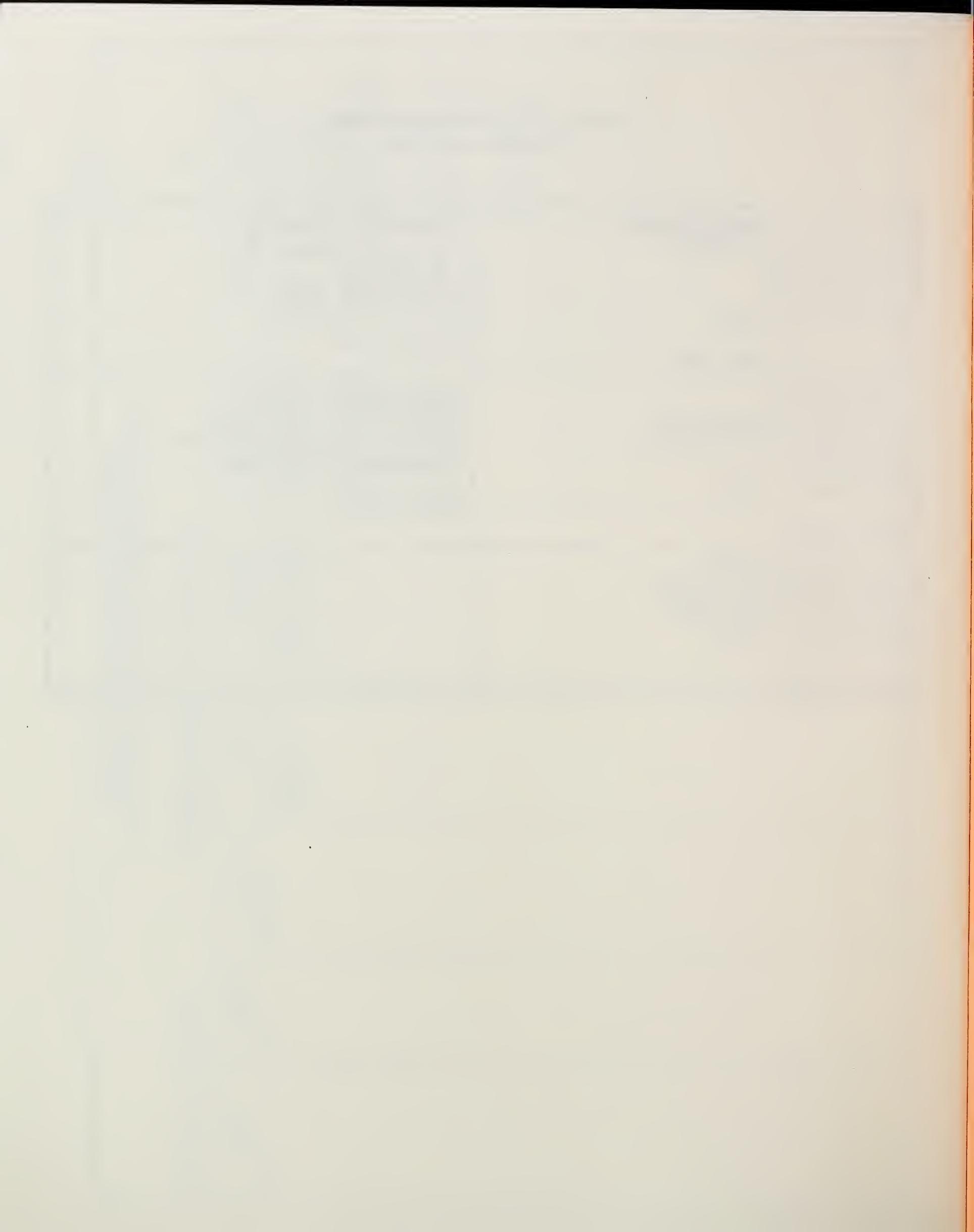
**PRODUCT CATEGORY : COOKED SAUSAGE (FRANKFURTER)
WORKSHOP LOCATION : FT. WORTH, TX**

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PROCESS STEP/CCP	CCP/HAZARD NUMBER	CCP DESCRIPTION	CRITICAL LIMITS	ESTABLISHMENT MONITORING	CORRECTIVE/PREVENTIVE ACTION
STORAGE	CCP #M	TEMPERATURE	Maintain proper product temperature control	Recording of room temperatures (charts, graphs or manual)	<p>PLACE PRODUCT INVOLVED ON HOLD AND EVALUATE SIGNIFICANCE OF THE DEVIATION</p> <p>DISPOSITION BASED ON PREVIOUSLY APPROVED GUIDELINES FROM QUALITY ASSURANCE OR PROCESS AUTHORITY</p> <p>EVALUATE CAUSE OF DEVIATION AND TAKE ACTION TO PREVENT RECURRENCES</p> <p>PERIODIC OBSERVATION AND/OR MEASUREMENT</p> <p>AUDIT OF RELEVANT RECORDS, CONSUMER CONTACTS AND/OR PRODUCTS TO DETERMINE IF MONITORING IS SUFFICIENT AND CRITICAL LIMITS ARE ADEQUATE FOR SAFETY</p> <p>HARD COPY RECORD ON APPROPRIATE ESTABLISHMENT FORMS, COMPLETED BY APPROPRIATE PERSON, RECORDED AT CCP SITE ON A TIMELY BASIS</p> <p>PERFORM ONGOING REVIEW OF HACCP PLAN IN RESPONSE TO DEVIATIONS AND/OR SYSTEM AND PRODUCT MODIFICATIONS</p> <p>DOCUMENT CALIBRATION OF TEST EQUIPMENT AT INTERVALS SUFFICIENT TO MEET CRITICAL LIMITS</p>

**HACCP STEERING COMMITTEE
(COOKED SAUSAGE)**

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<p>MIKE ROBACH CONTINENTAL GRAIN CO. 3700 CRESTWOOD PARKWAY SUITE 1000 DULUTH, GA 30136 (404) 564-4053</p>	<p>MOHAMMAD F. AZAM THORN APPLE VALLEY INC. 2000 OAK INDUSTRIAL DR., N.E. GRAND RAPIDS, MI 49505 (616) 774-0711</p>
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